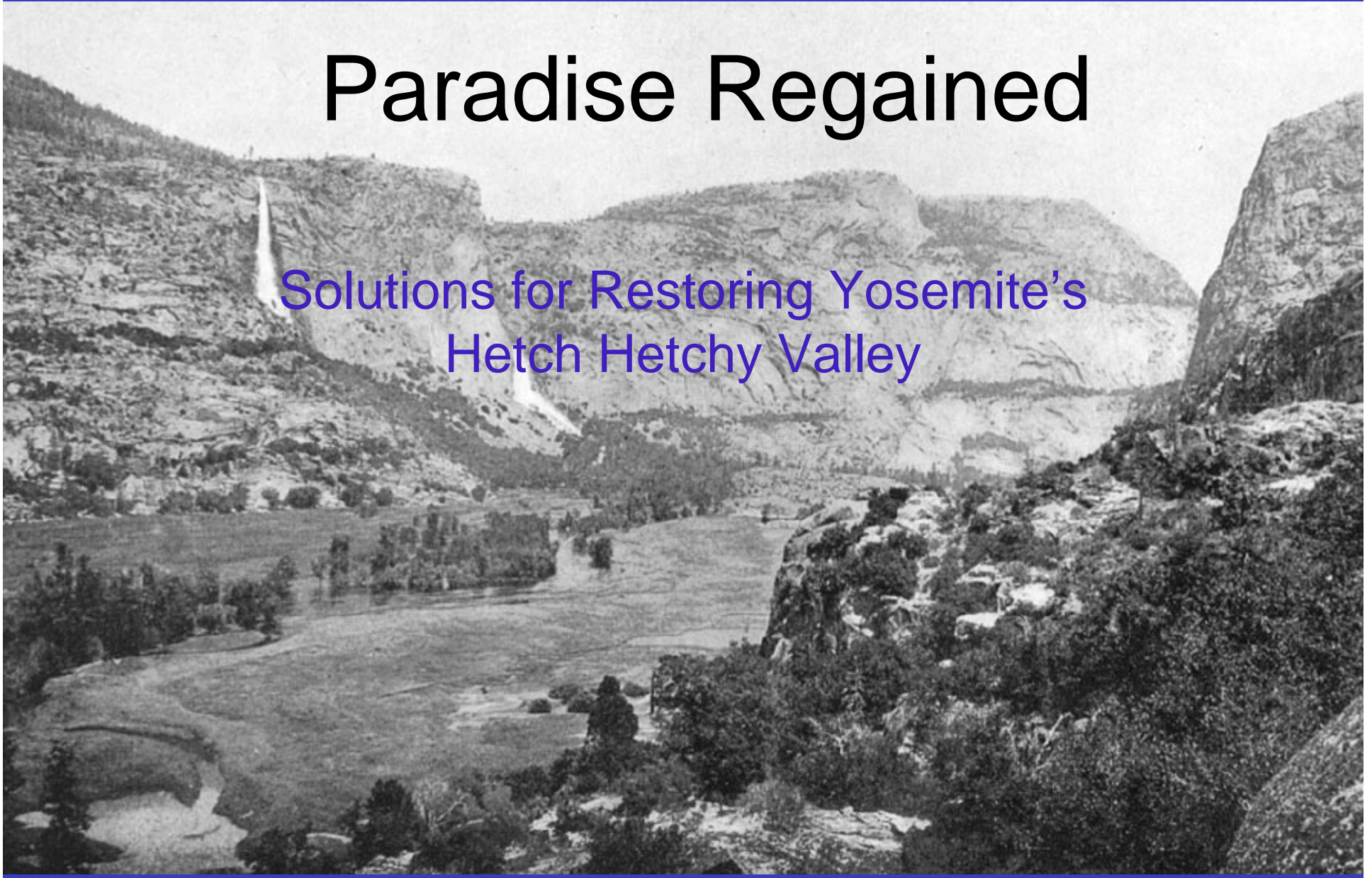


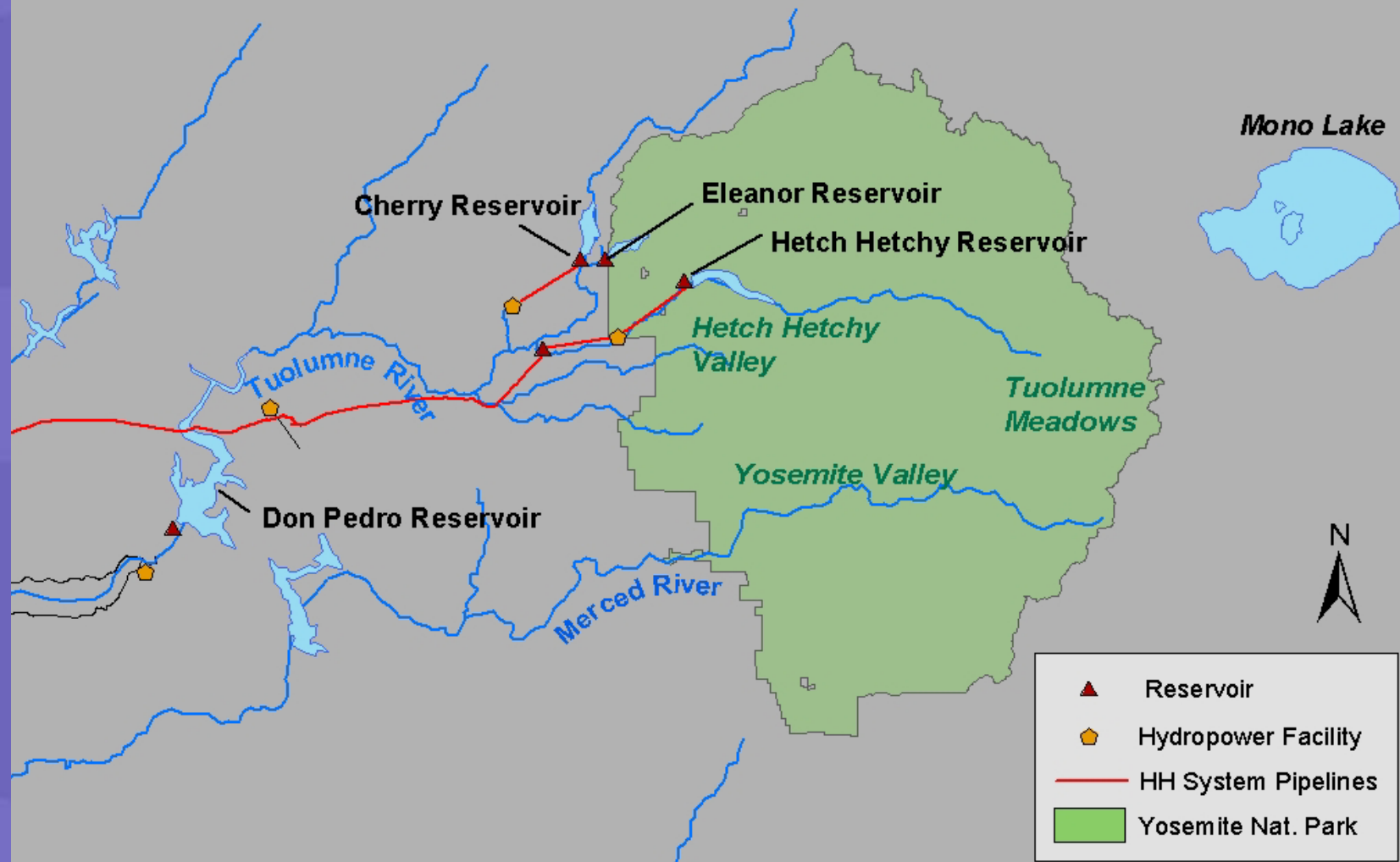
# Paradise Regained

Solutions for Restoring Yosemite's  
Hetch Hetchy Valley



## ENVIRONMENTAL DEFENSE

### Yosemite National Park and Tuolumne River System



HETCH HETCHY SOLUTIONS



“A wonderfully exact counterpart”



Yosemite Falls



Wapama Falls

# ENVIRONMENTAL DEFENSE



Merced River  
Yosemite Valley  
2004

Tuolumne River  
Hetch Hetchy Valley  
1908



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# ENVIRONMENTAL DEFENSE



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# ENVIRONMENTAL DEFENSE



HETCH HETCHY SOLUTIONS



# ENVIRONMENTAL DEFENSE



HETCH HETCHY SOLUTIONS



# ENVIRONMENTAL DEFENSE

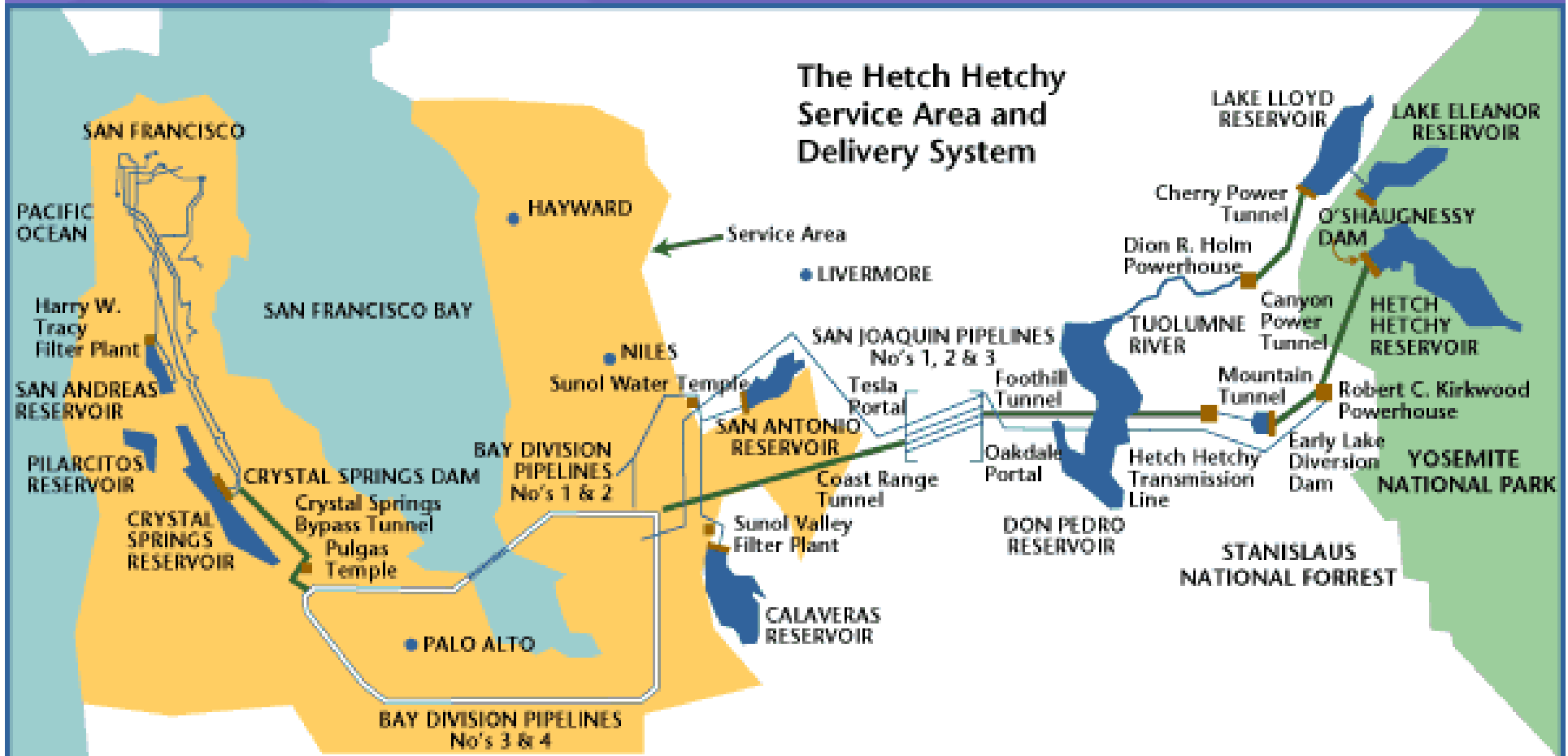


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## ENVIRONMENTAL DEFENSE

# SFPUC serves 2.4 million Bay Area residents



HETCH HETCHY SOLUTIONS

# Questions about restoration

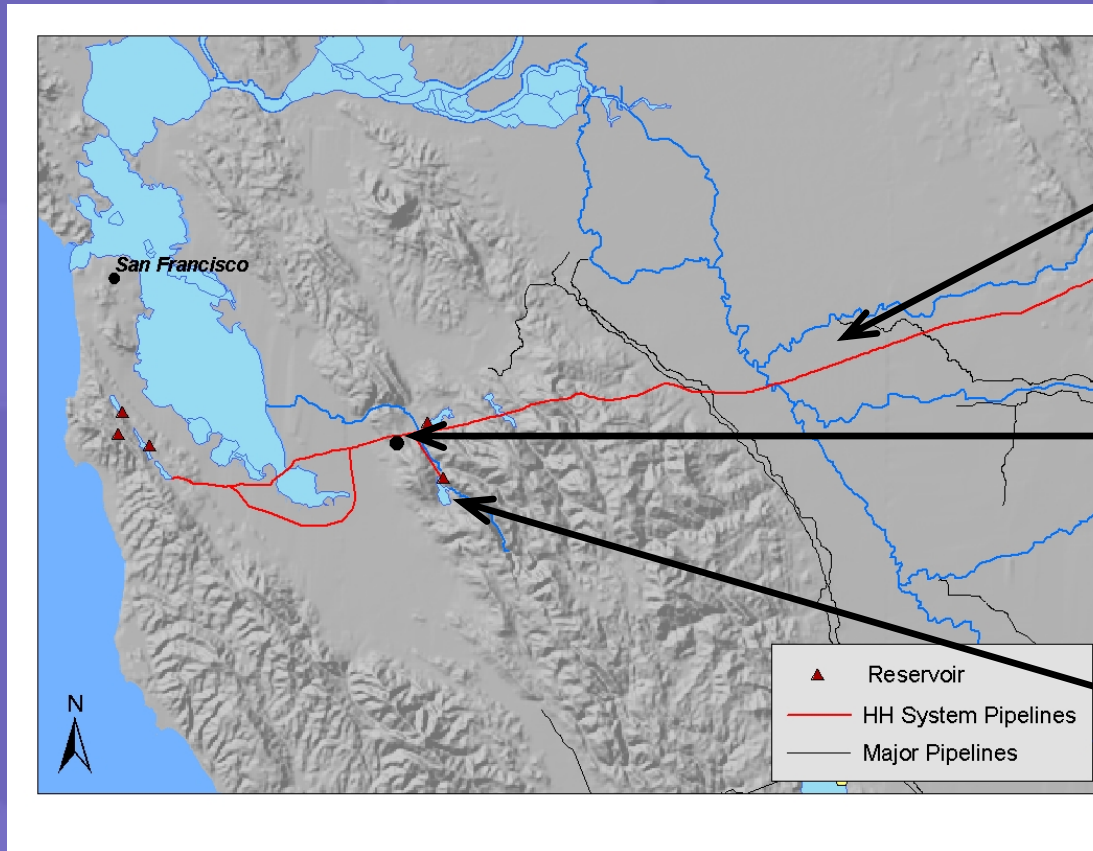
- Why now?
- Is it technically feasible?
  - Where will we get our water?
  - Will it be safe to drink?
  - How can power be replaced?
- Are there legal/institutional barriers?
- How much will it cost?



# An Environmental Defense Study *with expert assistance*

- Engineering – Schlumberger Water Services, Inc.
- Water Quality – EOA, Inc.
- Legal Issues – Somach, Simmons & Dunn

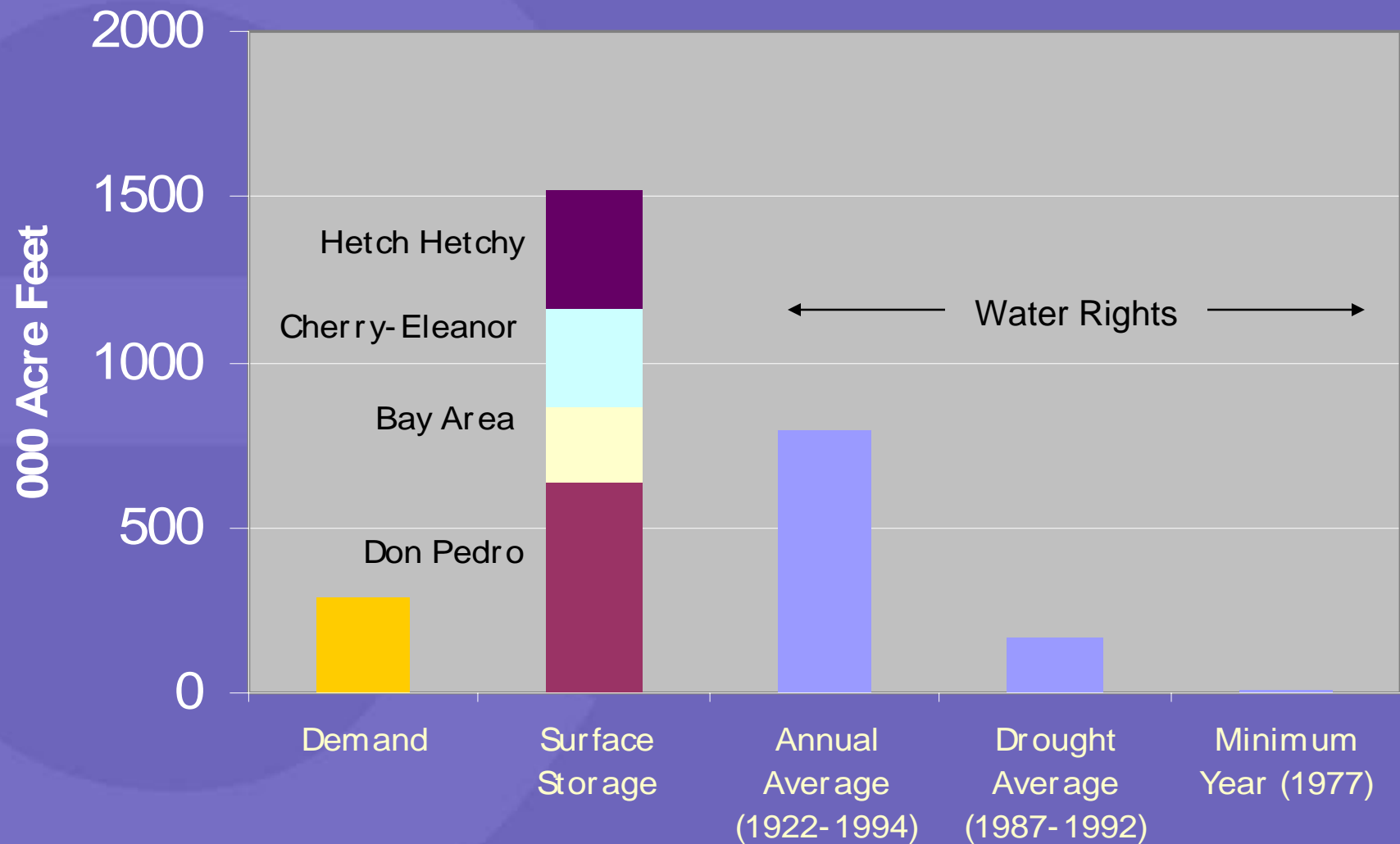
# Capital Improvement Program Expansion Elements



- Additional San Joaquin Pipeline (\$M 450)
- Expanded Sunol Treatment Plant (\$M 95)
- Expanded Calaveras Reservoir (\$M 150)

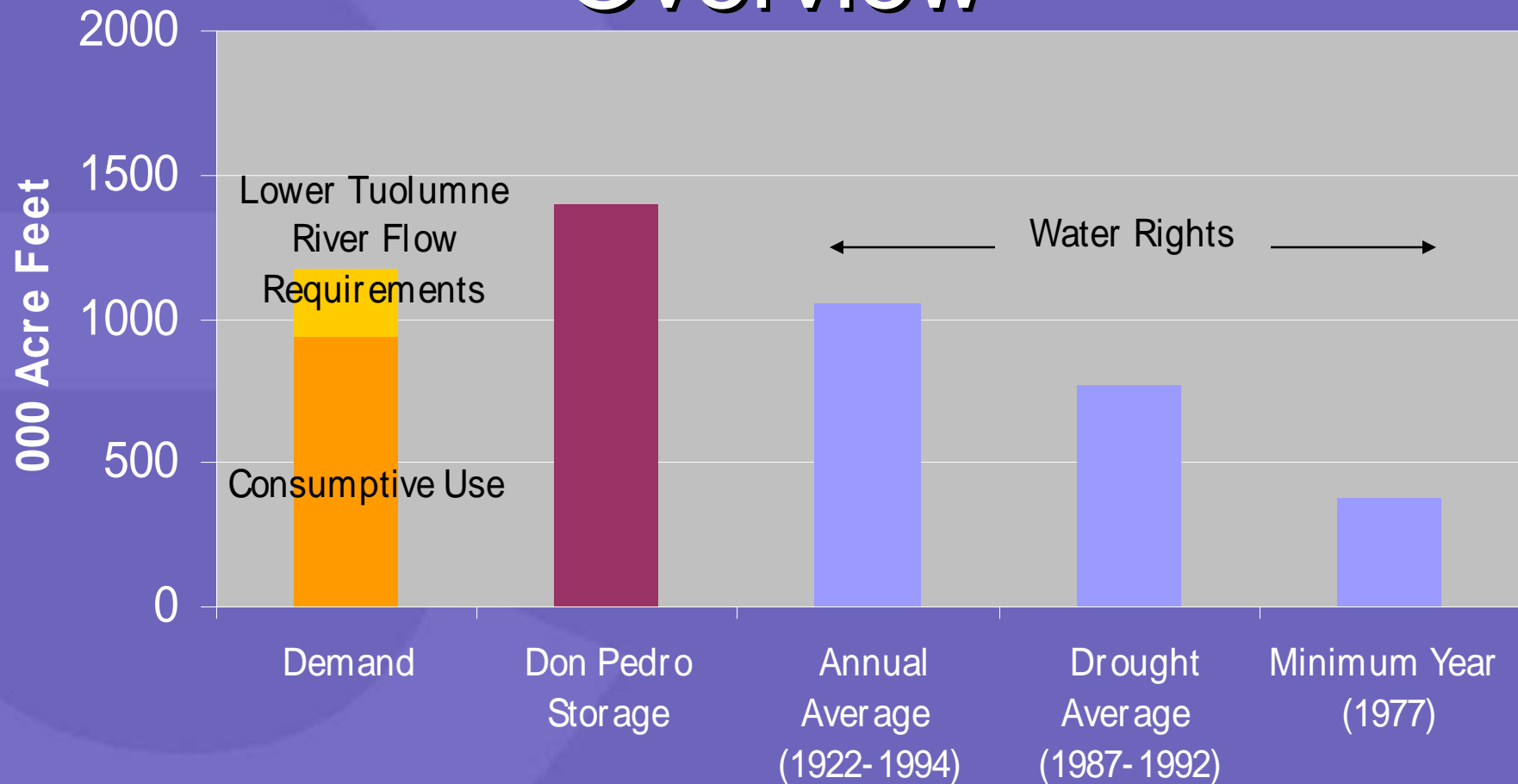


# SFPUC System Overview



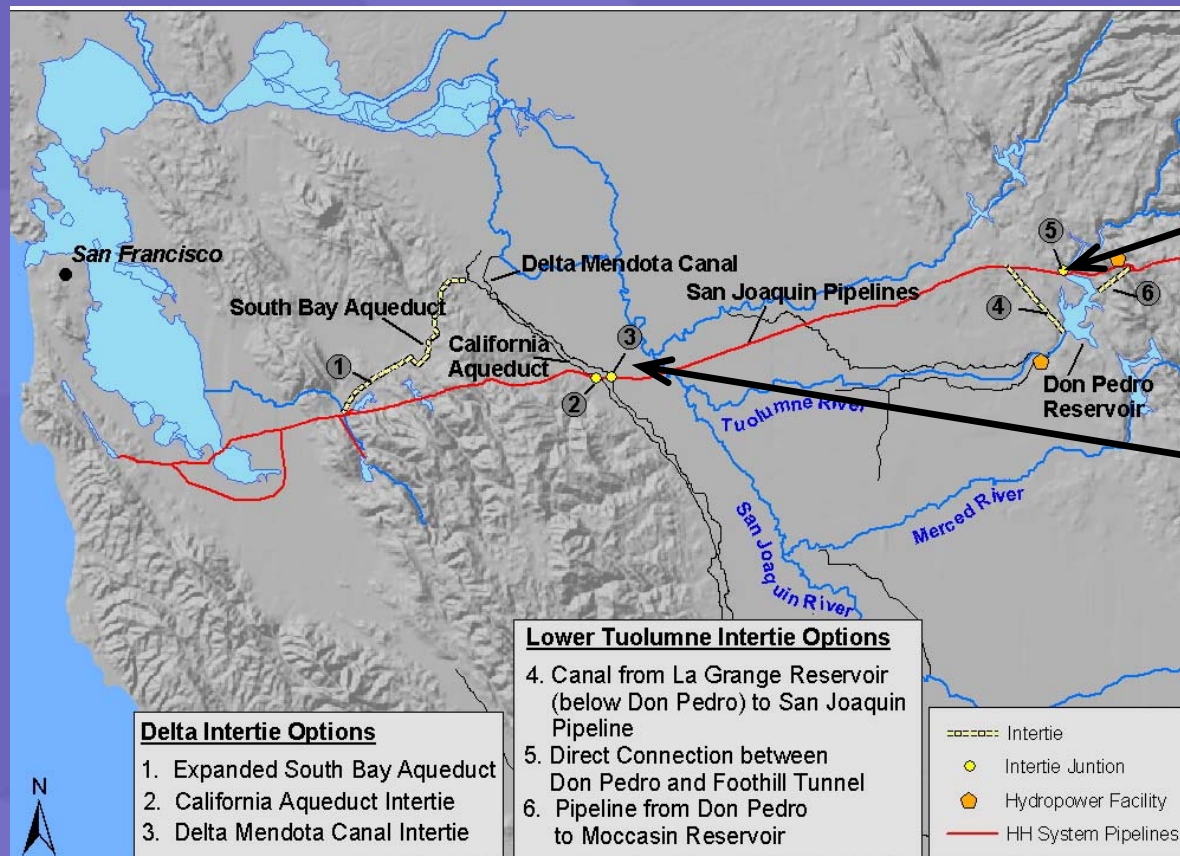
HETCH HETCHY SOLUTIONS

# TID and MID System Overview





# Meeting Water Supply Needs Without Hetch Hetchy Reservoir



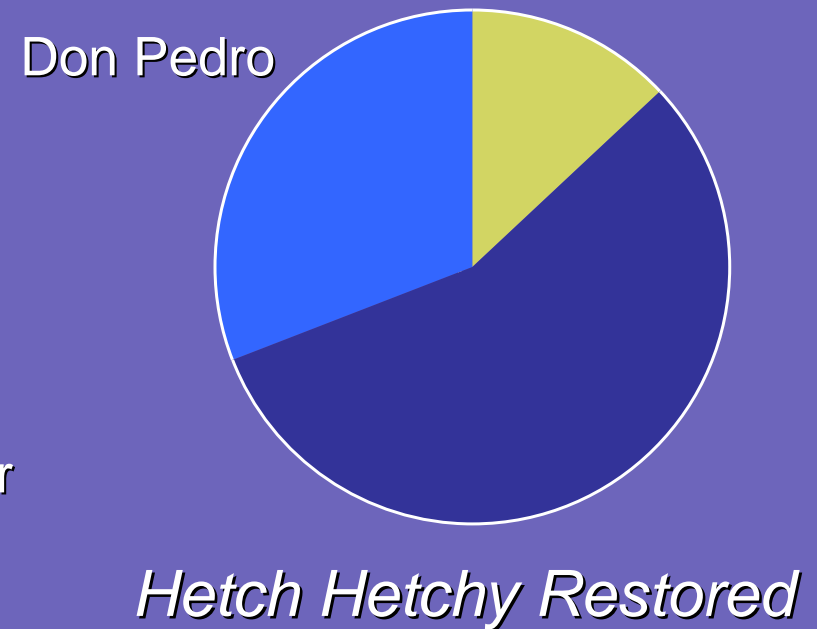
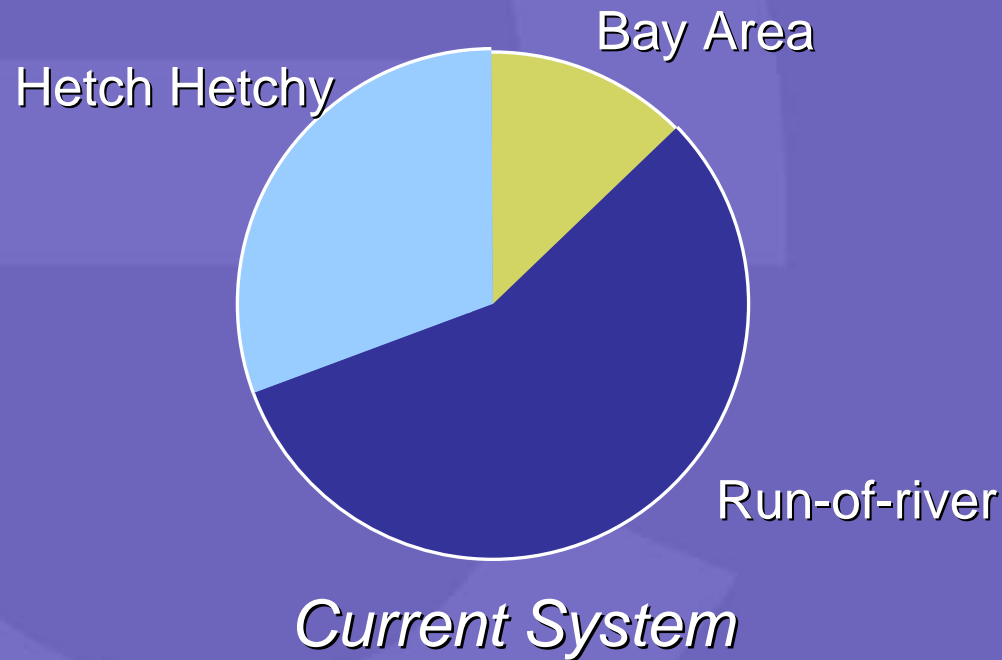
## New Interties:

- From Don Pedro Reservoir
- From California Aqueduct

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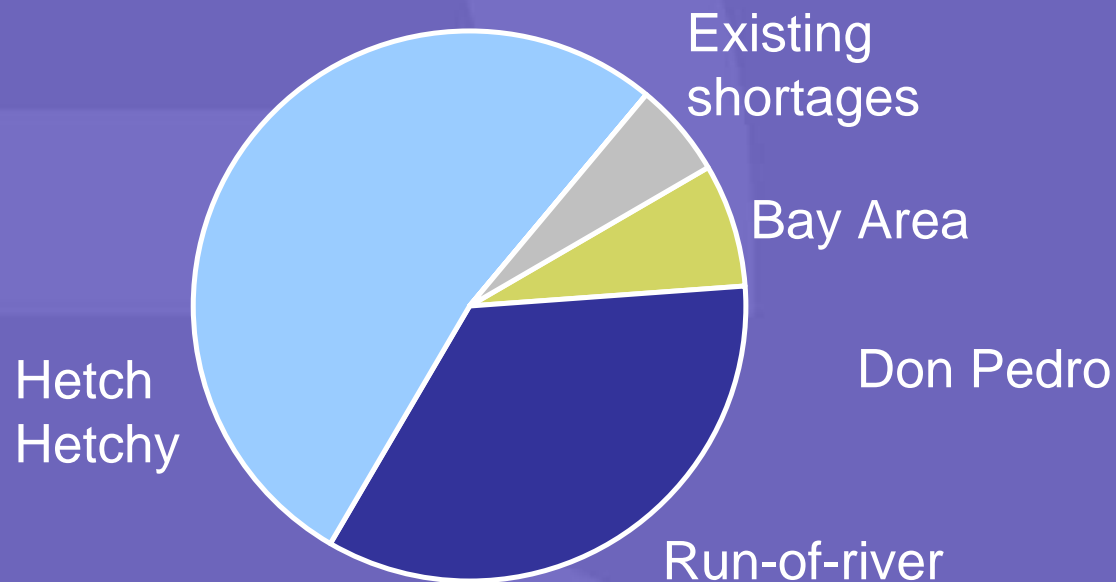
# Meeting current water needs

Adequate Precipitation: 4 out of 5 years

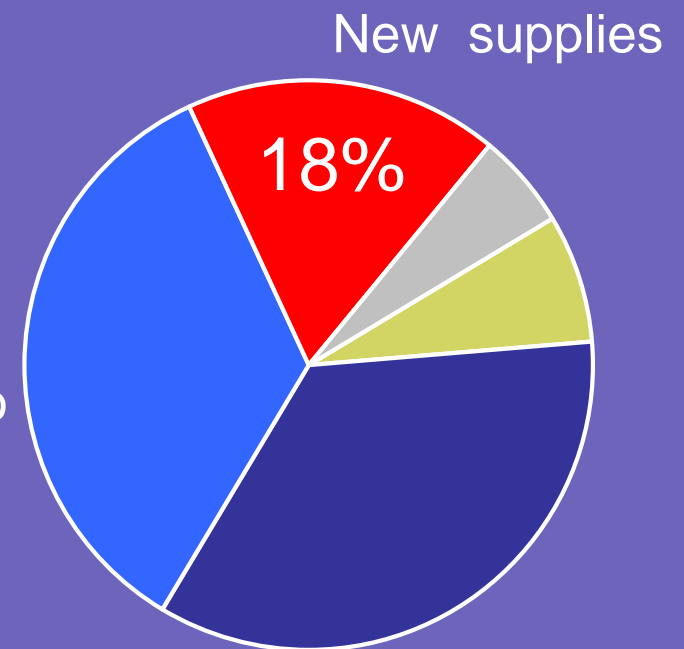


# Assuring reliable supplies during droughts

Critically Dry Years: 1 out of 5 years



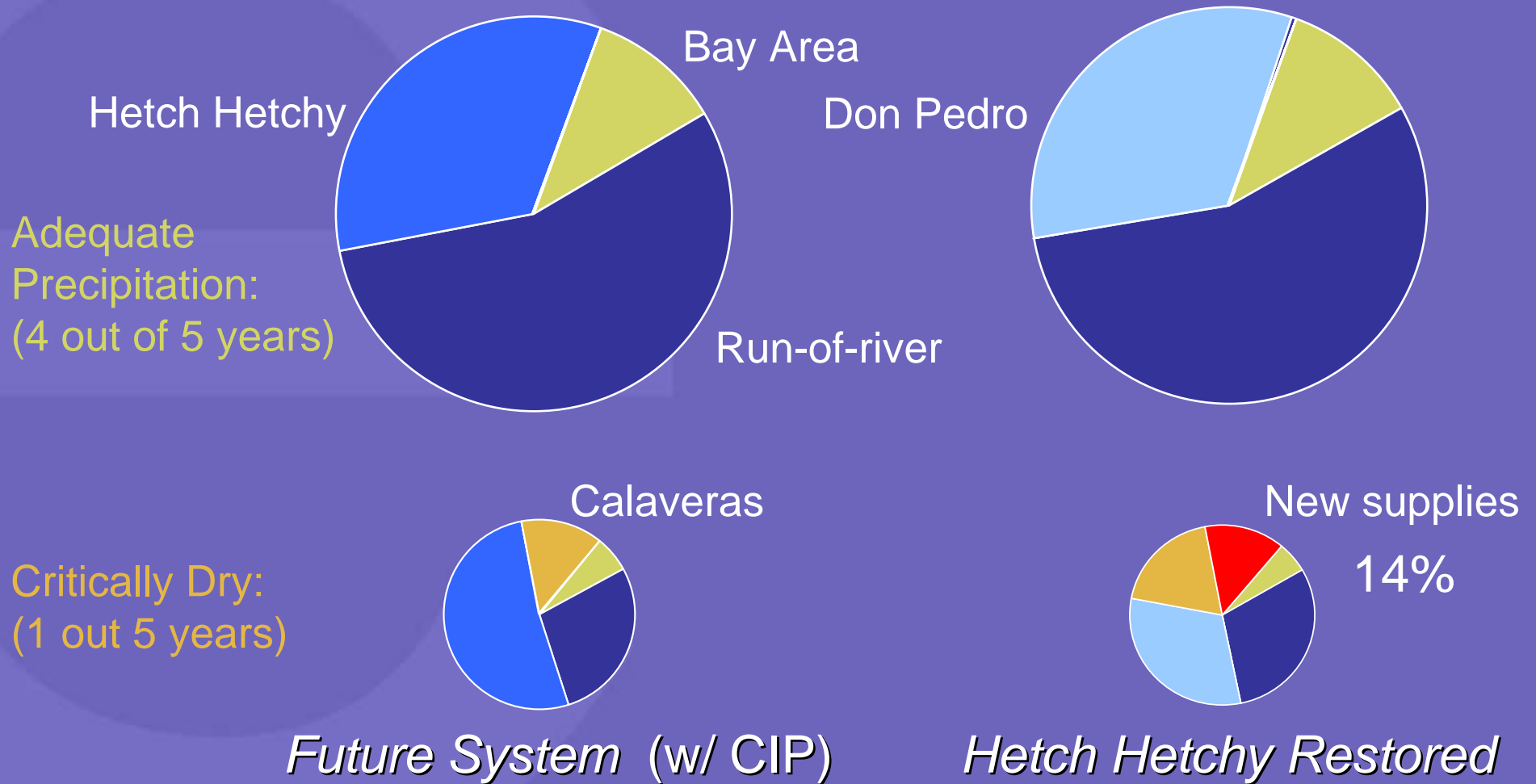
*Current System*



*Hetch Hetchy Restored*



# Accommodating Projected Growth



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# New Dry Year Supply Sources

- Groundwater banking
- Water transfers
- New local storage



# Maintaining high water quality

- All Tuolumne supplies would be filtered
- Additional treatment needed for Delta and local reservoirs
- Safety may *improve*

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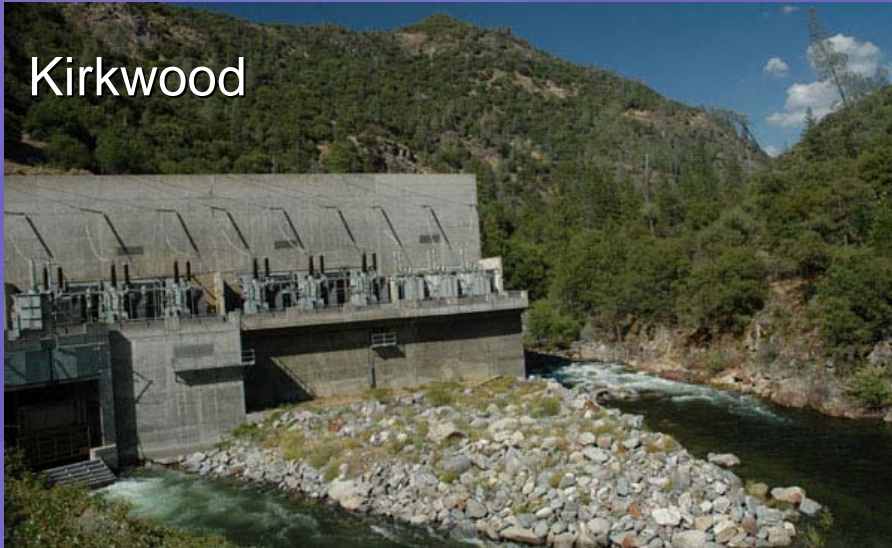


# SFPUC Hydropower

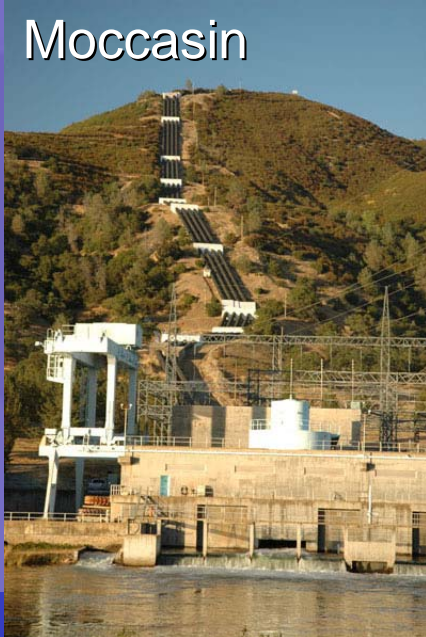
- California
  - San Francisco
    - 0.6% of supply
- Turlock ID
  - 15% of supply
- Modesto ID
  - 15% of supply
  - 20% of supply

## ENVIRONMENTAL DEFENSE

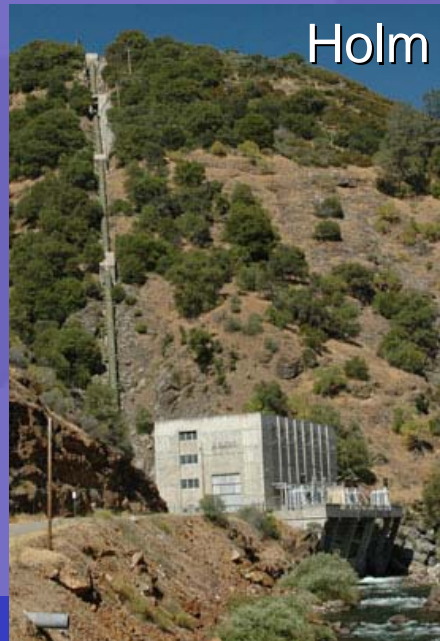
Kirkwood



Moccasin



Holm

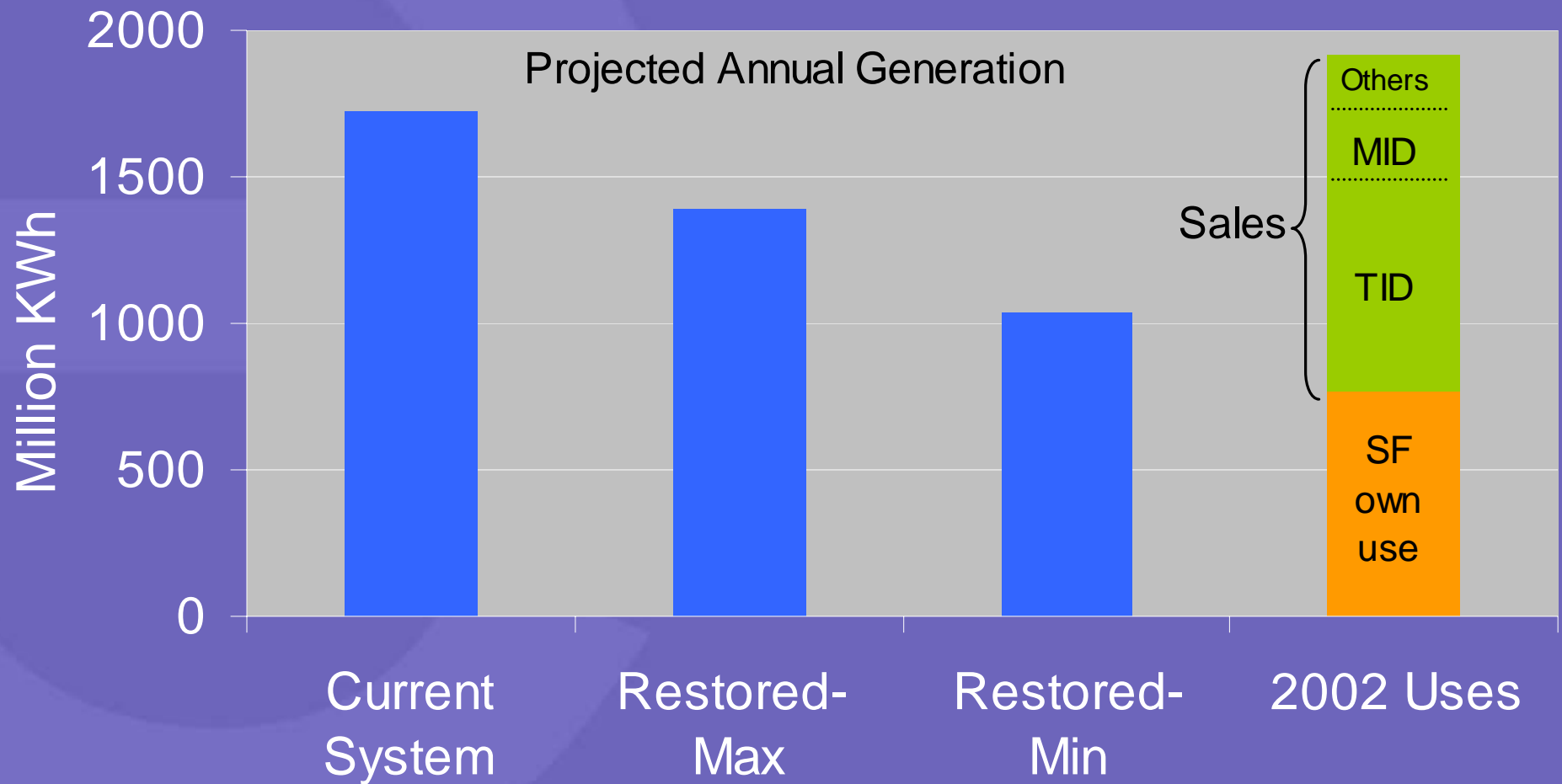


# SFPUC Hydro Facilities



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# Hydropower falls 20-40%



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# Power Alternatives

- Energy efficiency
- Dynamic pricing
- Renewable energy
- Natural gas



California has built over a dozen  
base-load power plants since 2001



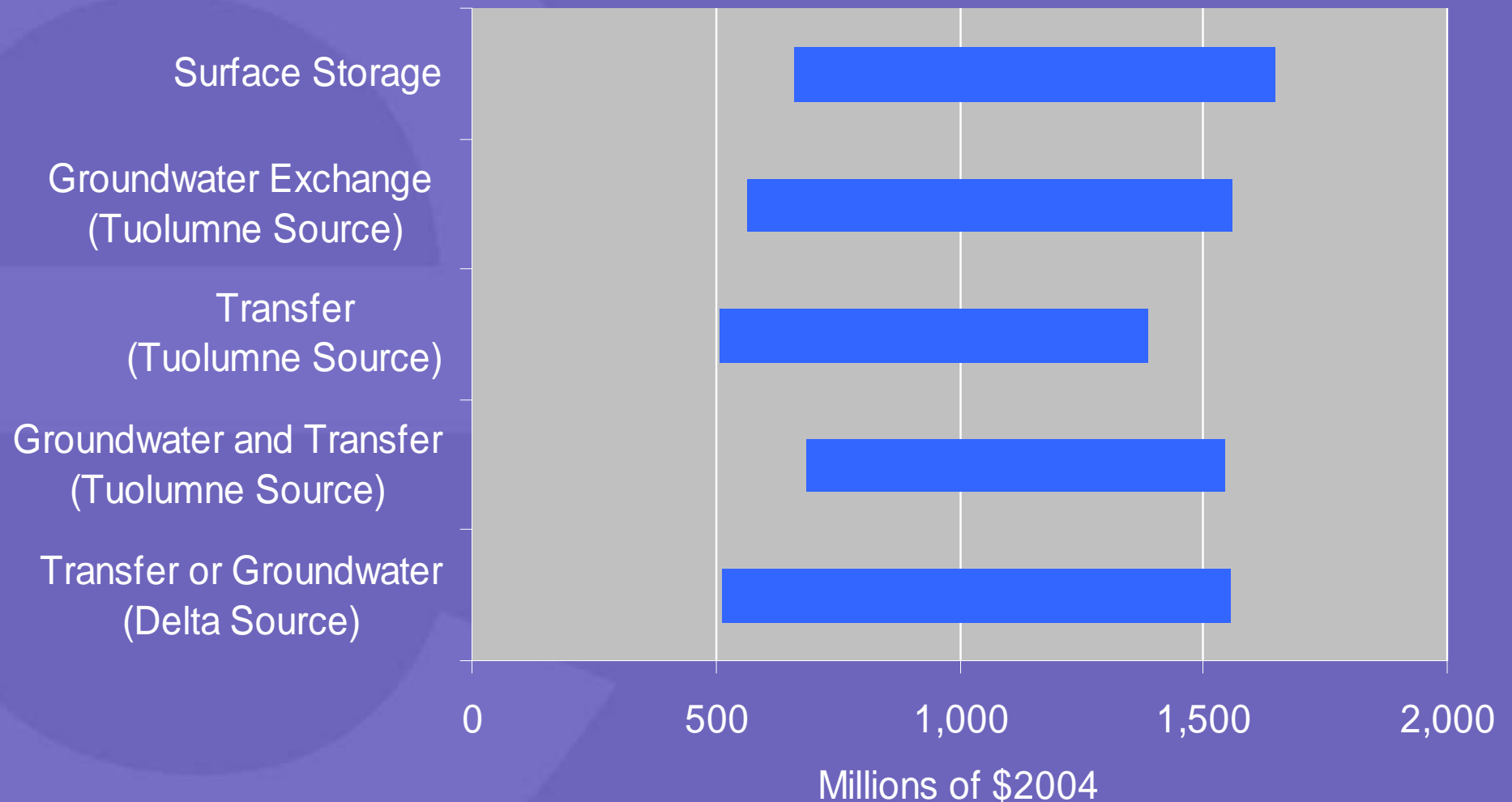
Restoring Hetch Hetchy is  
equivalent to **40-90MW**



HETCH HETCHY SOLUTIONS



# Water and Power Replacement Costs



# Key Findings

- Water
  - Same source for almost all supplies
  - Some new supplies needed in dry years (4% avg.)
  - Same or better quality with filtration
- Power
  - 20-40% reduction in generation
  - Abundant green alternatives
- Cost: \$.5 - 1.6 billion (NPV)

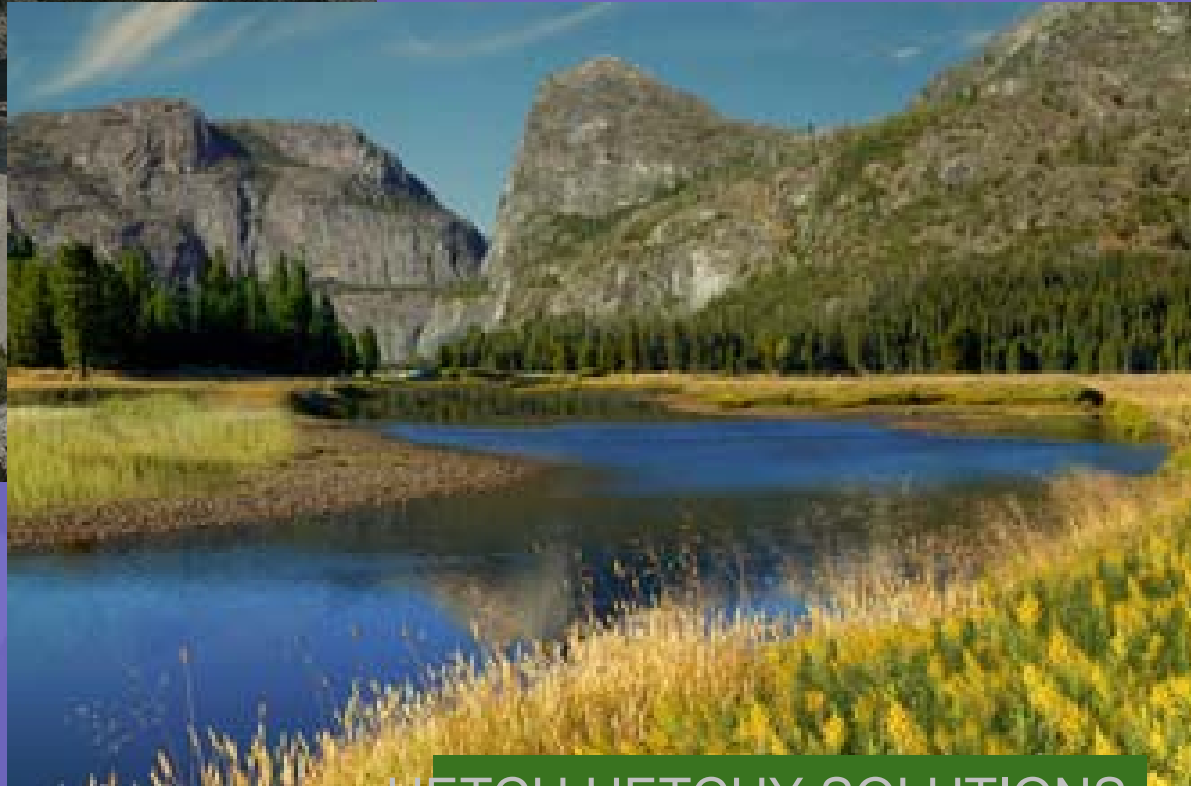
ENVIRONMENTAL DEFENSE

# Real choices for the 21<sup>st</sup> century



*Today*

*Tomorrow*



HETCH HETCHY SOLUTIONS